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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,056	12/19/2001	Kevin B. Stanton	219.40608X00	9824
21186	7590	09/16/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402-0938			MEHRA, INDER P	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/021,056	Applicant(s) STANTON, KEVIN B.	
	Examiner Inder P. Mehra	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application dated: 12/19/2001. Claims 1-28 are pending.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following limitations (emphasis added) in claims 1, 11 and 20 are not illustrated in drawings:

As recited in claim 1,

- “**a controller**”, in claim 1,
- wherein when a packet is received at the input interface **from a first of the at least two devices** where a destination address of the packet is a **second of the at least two devices, the controller sends** the packet across the output interface to the second at least two devices without sending the packet to the network must be shown or the feature(s) canceled from the claim(s), in claim 1.

As recited in claim 20,

- A system for connectivity of InfiniBand **nodes** using a shared Network Interface Card (NIC) device comprising:
- **at least two devices connected to the same InfiniBand subnet;**
- **at least one shared NIC device, the at least one shared NIC device operatively connected between the subnet and at least one network; and**

- **at least one switch operatively connected to the subnet, the at least one switch providing connectivity between the at least two devices and at least one shared MC device on the subnet,**

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 10-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the method" in line 1. There is no antecedent basis for this limitation in the claim. This is a method claim dependent from the device claim.

Claim 11 recites the limitation "the same IBA subnet" in lines 3-4. There is no antecedent basis for this limitation in the claim. Similar problem exists in claim 11 lines 4 and 8, claim 14 lines 3.

Claim 12 recites the limitation "the device addresses" in lines 1-2. There is no antecedent basis for this limitation in the claim.

Claim 20 recites the limitation "the same InfiniBand subnet" in line 3. There is no antecedent basis for this limitation in the claim.

Note: There are similar problems of antecedent basis in the rest of the claims.

Appropriate action be taken to correct these problems.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1, 4-11 and 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Foster et al** (US Patent Application No. 2004/0004966) in view of **Pekkala** (US Patent Application No. 2002/0172195).

For claims 1, 11, 13 and 20, Foster discloses, in reference to figs. 2A-2C, “A shared NIC (105) device comprising:

- an input interface connected to an InfiniBand Architecture (IBA) subnet, the IBA subnet having at least two devices attached, an output interface connected to the IBA subnet, refer to paragraph 0026;
- a network input interface, the network input interface processing information received from a network; a network output interface, the network output interface processing information to be sent to the network (external network), refer to paragraph 0027; and
- a controller, wherein when a packet is received at the input interface from a first of the at least two devices where a destination address of the packet is a second of the at least two devices, the controller sends the packet across the output interface to the second at least two devices without sending the packet to the network, refer to fig. 7 blocks 730-740.

Foster does not disclose expressly “at least two devices”, which is disclosed explicitly by Pekkala, refer to 102 in fig. 1.

It would have been obvious to the person of ordinary skill in the art at the time the invention to use the capability of “at least two devices, as taught by Pekkala. The capability can

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be implemented by connecting devices to Infiniband, as disclosed by Pekkala. The motivation for using this capability is to allow disparate data interfaces without double buffering.

For claims 4-10, 14-19 and 21-27, Foster discloses all the limitations of subject matter, including the following limitation:

- “wherein the network comprises a Fibre Channel network,**as recited by claims 4, 16 and 21**, refer to paragraphs 006-0007.

Foster does not disclose the following limitations, which are disclosed by Pekkala, as follows:

- “wherein the network comprises a Small Computer System Interface (SCSI) network, **as recited by claims 5, 17, and 22**, refer to paragraphs 0053 and 00172.
- wherein the network comprises an Asynchronous Transfer Mode (ATM) network, **as recited by claims 6, 14 and 23**, refer to paragraph 00172.
- wherein the network comprises a Synckonous Optical Network (SONET), **as recited by claims 7, 15 and 24**, refer to paragraph 00172.
- wherein the network comprises an Ethenwt network, **as recited by claims 8, 18 , and 25-26**, refer to paragraph 00172.
- wherein the at least two devices are attached to the IBA subnet through at least one router, **as recited by claims 9 and 27**, refer to paragraphs 0051-0052 and fig. 1.

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- wherein the at least two devices comprise at least one of InfiniBand host devices and InfiniBand target devices, **as recited by claims 10 and 19**, refer to paragraphs 0051, 0054 .

It would have been obvious to the person of ordinary skill in the art at the time the invention to use the capability of SCSI, ATM, SONET, Ethernet and router, as taught by Pekkala. The capability can be implemented by connecting routers to devices and networks, as taught by Pekkala. The motivation for using this capability is to allow disparate data interfaces without double buffering.

7. Claims 2-3 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Foster et al**, hereinafter, Foster, as above, in view of **Pekkala** , as above, further, in view of **Chang** (US Patent Application No. 2004/0146052) .

For claims 2-3 and 12-13, Foster in view of Pekkala discloses all the limitations of subject matter, with the exception of the following limitations, which are disclosed by Chang, as follows:

- a controller that includes a storage device containing device addresses of at least some of the at least two devices and a comparator, the comparator comparing the destination address received with the device addresses, **as recited by claims 2 and 12**, refer to figs. 2-3, and abstract, paragraphs, 0005, 0016 and 27.
- wherein the device addresses comprise Media Access Control (MAC) addresses, **as recited by claims 3 and 13**, refer to paragraph 0013..

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It would have been obvious to the person of ordinary skill in the art at the time the invention to use the capability of "a controller that includes a storage device ---and a comparator, the comparator comparing the destination address received with the device addresses, as taught by Chang. The capability can be implemented by storage in controller of NIC. The motivation for using this capability is to filter communications received at multi-host network interface devices.

Prior Art of Record

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Weaver** (US Patent Application No. 2003/0039248) discloses a system and method for optimizing transmission of plurality of data packets, each packet having a next-hop address, across a data network.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder Pal Mehra

Inder P Mehra

Examiner

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9/14/05



DANG TON
PRIMARY EXAMINER